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A selective review of the literature on the socialization effect of games uncovers a varied and increasing number of hypotheses, but only little and scattered evidence. Direct studies of play and game functions are primarily in uncontrolled clinical reports. Therefore, a pilot study was conducted as a preliminary attempt to establish correlational relationships between types and frequencies of games played and general attitudes in children. The research was conducted in a rural school in Maryland; all sixth-graders (108) answered a battery of questions. Two independent categories of games were identified: sports, and board and card games. Participation in sports was found to be strongly associated with school achievement, span of attention, and the feeling that one can learn, but not related to self-image or attitude toward luck. Involvement in board and card games, on the other hand, was related to low school achievement, a negative self-image, reliance on luck rather than work, and a feeling of impotency in learning. These findings are considered to provide evidence of game importance and to indicate specific relationship between social processes and autoletic (game and play) activities. (SS/MF)

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THE JOHNS HOPKINS UNIVERSITY REPORT NO. 29

THE CENTER FOR THE STUDY OF SOCIAL ORGANIZATION OF SCHOOLS

AUTOLETIC BEHAVIOR IN SOCIALIZATION

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ABSTRACT

Play and games are widely held to perform a vital role in the socialization process. A selective review of the literature uncovers an unusual scope and variety of hypotheses. There is little evidence, however, for most of the hypotheses. The reasons are perhaps the apparent self-evidence of the arguments and the seemingly overwhelming difficulty of testing the theories with adequacy. Data from a pilot study of rural school-children's game experiences and attitudes are presented. The findings illustrate the need for, and feasibility of, the systematic program of research on autotelic behavior in socialization that is long overdue.

When a game is afoot, everyday problems are relinquished. The game's the thing: winning or losing are secondary. Time is spent for its own sake. These statements encompass the meaning of autotelic behavior: activity that constitutes an end in itself. Yet there is a seeming paradox here. Though unserious in itself, autotelic activity performs most serious functions for society.[1] The most apparent of these functions is socialization.

The salience of play and games during the juvenile period has been noted to extend to many lower order vertebrates as well as to all superior primates. (Groos, 1898). There is also hard evidence, albeit scattered, that the dimension of playing versus non-playing has far-reaching consequences for maturation. Perhaps the most dramatic finding here is from Harlow's (1964) research on young monkeys. He found that infant monkeys raised on cloth mothers, yet given the opportunity to form infant-infant affectional patterns through play, developed normal social sexual responses in adulthood. Conversely, monkeys deprived of contact with other infants did not. In other words, the play-pen is as important as natural mothering for some part of the socializing process.

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[1] For a more complete discussion, see Inbar (1968). Few sociologists have studied autotelic behavior, possibly as a result of the Puritan ethos in American sociology. Recently several social scientists including Coleman (1968), Suits (1967a, 1967b) and Garfinkel (1967), have argued for game-theoretic analysis, i.e., the study of serious social activities as if they are games. Presumably we need more theory of games before we can apply game-theoretic analysis.

From another perspective, anthropologists have lately uncovered evidence for a thesis suggested by sociologists (Caillois, 1961; Eisenstadt, 1956), that play experiences within a society are structurally isomorphic to experiences in the larger society. For example, Robers and Sutton-Smith (1962) have surveyed 56 primitive societies relating prevalent game forms to cultural configurations. Games of chance are found where a culture's religious beliefs emphasize the benevolence or coerciveness of supernatural beings. Games of physical skill are salient whenever the culture places a high value on mastery of the environment and on personal achievement. Games of strategy are more likely in structurally-complex societies.

In the same vein, Eiferman's (1968) research based upon observations of play among Arab and Israeli children presents detailed descriptions of variations in game content by sex and culture. Boys' games in both cultures are characterized by far greater interdependence of roles, high division of labor, zero-sum competition, physical contact, and quarreling. Girls' games display low division of labor, less group activity, and the absence of end-game characteristics. Also, there is a large minority of children at all ages (including latency) who participate in sex-heterogeneous games, except for Arab children. Apparently even though the Arab schools are sex-heterogeneous, the childrens' play prepares them for culturally predominant sex-homogeneous restrictions.

Such anthropological data give credence to our own common-sense observations that the games we provide prepare our children for later life. Indeed, this assumption underlies the current concern over

violent play and its effects upon a youth's real-life activities. These lay notions about the role of play and games are present in systematic theoretical statements well-known to most sociologists. Yet research on socialization has traditionally focused upon the role of the family structure and of peers as significant others. The structure of peer groups and the activities therein have largely been overlooked. Insofar as peer group structure is essentially the structure of the games that are played (for certain age groups), we hope to show that the neglect of research on autotelic behavior is a major gap in present-day knowledge of socialization.

Theories of Socialization

It would be tedious and useless to review the definition of play and games proposed by various commentators.[2] The following set of characteristics of autotelic behavior would be acceptable to theorists discussed below: it is a freely-engaged in activity; its purpose is pleasure or fun; it is in essence unproductive; it provides challenge against a task or an opponent; it is a symbolic activity governed by rules; it is an arbitrary situation clearly limited and separated in

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[2] The interested reader can start with Sapora and Mitchell (1948: 113-4) who list a representative sample of definitions. Two of the latest and most interesting are proposed by Caillois (1961: 9-10) and Garfinkel (1967: 140-1).

time and space from real life activities. When a distinction is drawn between play and games, the typical response is that games involve competition, and thereby, rules.[3]

As some have noted (e.g. Berne 1964, Suits 1967) many daily activities are not easily distinguishable from games. It can be argued that such diverse activities as wars and shopping trips fit the definition above. We suggest that there are three components to games in the sense that they are being considered here. First, games are formally sets of more or less elaborate and explicit rules about the constraints under which a goal is to be achieved with certain resources. Secondly, given a situation with this basic structure, the actor takes a psychological orientation that the goal is valueless in itself. He perceives the value of the activity to be in achieving the goal through respect for the set of rules as specified. Thus a cheater, having found the goal intrinsically valuable, is one who no longer accepts the psychological definition of the game. The third characteristic of games is social consensus that the activity is essentially useless. The actions in pursuit of the goal are defined to be inconsequential for the serious business of life.[4]

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[3] These rules may explicitly define such situational constraints as: the spatial and temporal boundaries of the activity; the legitimate resources, as well as their initial allocation; the number of competitive units; the procedural order, especially rules of alternance; the definition of the goal(s) and negative states (obstacles); compulsory, permissible, and forbidden strategies; the penalty for infractions; the authority for resolving conflicts; the definition of winner.

[4] Thus when someone becomes visibly anxious or humiliated over his poor performance in a game, the players may well reprimand, "Don't get angry--it's only a game." In other words, his performance will not affect their evaluation of him outside of the game--in theory, if not in practice.

The distinction between play and game is an important point for many theorists. Because games are a more structured activity, they are often considered to hold a critical role in socialization, and not only by sociologists. In the discussion below we have been careful to use play and game in a way which respects this distinction.

What is interesting is the variety of socialization outcomes predicted to result from autotelic activities. These outcomes are conveniently categorized into three types: (1) the development of individual traits or skills, (2) learning about the environment, (3) learning to interact with the environment.

Developing individual traits and skills. Perhaps most widely-held is the view that games serve personality integration. Erikson (1963: 211) has described play as ego's attempt to synchronize the bodily and social process with the self. Play permits a person to be his own boss because he obeys himself. Mead (1956: 228) has claimed similarly that during play an organized structure arises within the individual, the simplest form of one's self. Among others who have stated a similar position are Caillois (1961) and Huizinga (1955).

Another theory concerning the development of individual skills is that play, given its spontaneity and freedom of movement, encourages the development of creativity. (Wallach and Kogan, 1965, Hoffer, 1967). Lieberman (1965) has added that the sense of playfulness developed during childhood may become transformed into divergent thinking, the basis of creativity, during adolescent years.

There are a range of other hypotheses which appear less frequently in the literature. Some relate games to quite specific outcomes, such as Robers and Sutton-Smith's (1962) proposition that physical games lead

to the development of need-achievement and independence. Nash (1953: 59) has argued that the change in adrenalization during autotelic activity makes it fundamental for the use of surplus energy and relaxation. At the other extreme can be found such all-encompassing statements as Neumeyer and Neumeyer's (1958) courageous claim that games shape, among other things, mental reactions; emotional disposition and stability; social drives; wishes, attitudes, habits, and interests; modes of social expression, mannerisms, gestures; and so forth. Falling in between these extremes would be statements such as Lee (1964) who maintains that games are basic for personality stability. Hence he proposes that delinquents are merely individuals who play the wrong games.

To summarize, it is not imprudent to claim that someone has predicted autotelic behavior to be critical for virtually every aspect of personality development. Without play and games, there should be no well-functioning beings.

Learning about the environment. Another set of writers would go further. Play and games not only make well-functioning individuals; they produce individuals who interact with skill. The most notable commentator here is Mead (1963: 228-33) who has postulated several functions of games. First, the child must develop a sense of the roles of others. Next, he must grasp the rules which form an organized set of response applicable to all players. Eventually the child generalizes the activity of the others and the rules into a unity, the "generalized other." At this stage the child has learned to go beyond taking the role of the other vis-a-vis his own role. He has now generalized attitudes from individuals to the social groups itself. Only then is the child fully self-conscious--aware of the organized attitudes of his

group, toward the problems which confront the group, and toward his cooperative contribution to group enterprises.

Piaget's (1965) observations of children playing marbles have led him to suggest that games give children practice with rules. He has noted that the orientation to the rules changes as the children become older. At the early stage, rules are conceived as having an existence of their own. Later, players learn that rules are conventions--signs of agreement--which furthermore can be changed upon agreement with others. In this later stage children develop a more sophisticated view of the social order; it is something that can be manipulated as well as followed.

Games are predicted not only to teach the nature of social order, but also the content of major roles in that order. Moore and Anderson (1962: 234) suggest that games teach the folk-models of the culture. These are models of the proper and legitimate behavior for various situations. And from a series of observations of sex-differences in game-play, Sutton-Smith (1965) has implied that games provide the medium for the transmission of sex roles. The game structure predominating for each sex provides a practice period for later sex-rule expectations.

Learning to interact with the environment. Another set of hypotheses state that play, and in particular, games, provide skills valuable for interacting effectively with the environment. Boocock and Coleman (1966) have argued that games are a source of a feeling of efficacy. Their reasoning is that games, better than many real-life situations, provide players with clear feedback on the con-

sequences of decisions. Hence game players should develop an attitude that their actions can have an impact on the social environment.[5]

Another skill predicted to develop through autotelic activity is empathy. Thus Mead's discussion that play requires role-taking assumes that play develops understanding and empathy for the position of others. Schelling's (1963) investigation implies a similar position. Through his research on simple games he has demonstrated that there are basic norms which become salient through a game-like process. Players begin to refer to these norms to determine what the other players, given their respective positions, will do in response to alternative moves.

In passing, it should be pointed out that not all theorists view games as functional for socialization. Spencer (1896: 630-1) viewed games and sports as essentially useless for society. Soule (1955:125-6) reminds us of the more extreme view held in some quarters that games are damaging through their frivolity. Adult life requires the performance of many serious and unpleasant duties, while play and games overemphasize pleasure-seeking. Aries (1962: 88) quotes the once-held belief that tennis, bowling, and their like are essentially quasi-criminal activities, no less serious in their deleterious social effects than drunkeness or prostitution.

Research Evidence

Given the thrust of the theories concerning autotelic behavior in socialization along with the reknown attached to certain theorists

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[5] If games do in fact develop the sense of control over environment, they may be useful in compensatory education. As the Coleman (1966) report has shown, sense of control is a major determinant of academic achievement, especially for minority group children.

(e.g., Mead, Piaget, Erikson, etc.), we should expect a large body of empirical test. The case is otherwise. There are few investigations of play and games, let alone in regard to socialization.

The main empirical evidence that play of games foster personality integration is from clinical reports. To illustrate, both Brauner (1956) and Redl (1951) have noted that deviant youngsters demonstrate difficulty in the ability to play and are disinclined to participate in playful activity. Case studies, whatever insights they provide, cannot be regarded as evidence.

Research in regard to play and creativity is more specific, yet still unsystematic. There is empirical evidence (Getzels and Jackson, 1962; Lieberman, 1965) of a relationship between playfulness and divergent thinking in kindergartners and adolescents. However, only variations in play were analyzed. That is, the condition of "no play" was not included in the analyses.[6]

Partly due to his own painstaking observations of marble playing at various ages, Piaget's work on the moral development of the child as it relates to game play has the most empirical support of all the theories. Eiferman (1968) conducted a similar examination of the game "Gummi"[7] among Israeli children. Her findings also point to the

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[6] For the reader who might wonder about this peculiar design, it should be pointed out that we cite these studies as available secondary evidence. The actual purpose of the researches was to examine the quality of play as a predictor of creativity.

[7] Gummi is a relatively new game which is still in the process of spreading in various parts of the world. It is basically a type of jumping game in which two players are linked with elastic. Eiferman reports of seeing the game in Princeton, New Jersey under the name of Japanese Elastic.

change from a rigid to a flexible interpretation of rules as age increases. Yet Piaget's and Eiferman's research are both on the group level of analysis.[8] In other words, there is no evidence that an individual child is less likely to have a different orientation toward rules as a result of restricted gaming experience.

Mead's position is one of the least substantiated. Perhaps the widespread familiarity with Mead's thesis, along with the apparent self-evidence of his argument, explain the lack of research on his hypotheses. The neglect here is especially startling when one considers the implication of Mead's strong statements: that those without sufficient game experience will develop neither interpersonal capabilities nor competences.

Specific and systematic findings are not altogether lacking. They have been produced from recent research on social simulation games.[9] One of the investigations with these games bears directly on issues raised by Mead. Boocock and Coleman (1966) have found through experimental research that these games produce a more sophisticated understanding of the social structure, empathy with other roles, and a

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[8] We do not mean to imply that we consider the group level finding less important. The focus of the present paper is basically with how individual socialization is influenced by games. In fact, play and games may have important organizational effects. See, for example, Boocock and Coleman (1966).

[9] These games have been developed for educational purposes to teach about various social processes. Unlike most games, social simulations are designed to maximize the resemblance between the game structure and some selected resources, constraints, and goals of a given social context. In other words, they are simulations in game form, modified for training purposes. For instance, in Coleman's Democracy, some major rules and procedures actually used in congress are part of the rules of the game; in Boocock's Life Career the labor market is based upon actual census data; in Zaltman's Consumer the credit forms are copies of real ones.

feeling of mastery over the environment. Thus students who played Life Career, a simulation of social mobility, displayed the following: greater knowledge of occupations and their educational requirements; the relationship of career to marital status and satisfaction; empathy with persons of different social background; increased perception of career planning as complex, but at the same time a greater confidence about making the necessary decisions; broader perceptions of the feminine role in society.

It is not clear, though, from this research to what extent the gameness of the situation contributed to the increased social awareness. More specifically, games have many of the qualities found to make groups agents for attitude change, such as active participation; permissive leadership; members making open statements of positions; forced commitment to action. Hence it would be necessary to have a control group of these characteristics, but without game activity to test the relevance of gaming itself.

More directly relevant is Schild's (1966) study which demonstrated that the learning of strategies in one game may generalize into the strategic behavior of a second different game. This finding hints at the likelihood that game learning does in fact transfer into real-life situations. Again, though, there is lack of evidence that games are the special sources of transfer which theorists would have us expect.

Also provocative is the finding consistent across a number of studies that game skill and conventional academic performance or intel-

ligence level are not correlated. The implication is that games produce a learning environment quite different from the one traditional in educational settings. Incidentally if games are a universal mechanism for socialization, then consonant with these findings we should expect that the games' strength lies in changing individuals of a wide variability in intelligence. Or, in Bruner's (1966: 10-11) words, the type of learning induced by games can be considered iconic rather than symbolic.

In short, there is a small amount of scattered evidence concerning the socializing functions of autotelic behavior. What little research is available is not in such a systematic form that hypotheses which fail to meet empirical tests are discarded. To date the trend has been to add more relationships often without a minimum of empirical support to the already bulky core of hypotheses. As a result more and more is being claimed for autotelic behavior while little is actually known. We believe that it is time to look at the foundations of the problem so as to approach research in an orderly manner.

Research Considerations

Given the state of the evidences as just reviewed, the proposition that game experience is strongly related to a large amount of dependent variables may or may not be true. This being so, it is important to recognize the implications. Consider the case where only weak relationships exist or where relationships are with variables of marginal theoretical interest. Then we would have to rethink the

socializing process, for a major mechanism through which it is assumed to take place would be found wanting.

Assume now that the postulated relationship between autotelic behavior and socialization is valid. In this case another question arises, namely, is the relationship universal? In other words, are all the games equivalent socializing media, or, is it misleading to talk in terms of "games" in general? In the latter case it would seem important to know for which types of games and for which variables relationships do hold. As long as these questions are not answered there is no hope to tame a potentially important force of socialization.

At first sight the task appears overwhelming. It would probably be so if one wished at once to tackle the problem of the causal relationship between autotelic behavior and the variables to which it is predicted to be related. Both the number of variables and the variety of autotelic behaviors are too great. For instance, what are the crucial aspects of game experience: the games' structures, their goals, their atmosphere, their composition, their duration, the competition, the immediate rewards, and so forth? Nonetheless fruitful research is possible if intermediate aims are clearly defined.

Consider the final aim of establishing causal relationships. It necessarily implies that the lower order of relationship, namely covariation, should also be demonstrable. In other words, cross-sectional data are sufficient for a first process of elimination. Furthermore, if autotelic activities are the powerful mechanism they are assumed to be, it is not unreasonable to expect that even gross and imperfect

categories of play and games will already have some explanatory effects.

We shall now illustrate the usefulness of this approach with survey data from a pilot study.[10] The research was conducted in a rural school in Maryland. All sixth-graders (N = 108) answered a battery of questions, part of which dealt with the frequency and social context of autotelic activities. In order to measure game experience, the following format was used:

On the average, how often do you take part in sports:

a. once a month

b. between once a month and once a week

c. about once a week

d. about twice a week

e. more than twice a week

A similar question was asked with regard to board and card games.

TABLE 1

Frequency of Participation in Sports and Board or Card Games

		Board-Card Games: Infrequent	Board-Card Games: Frequent	
Sports	Infrequent	16	20	36
	Frequent	20	34	54
		36	54	

Q = .12

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[10] The pilot study was conducted as a preface to a cross-cultural survey and experimentation on game experience and socialization currently underway. We are indebted to James Fennessey for assistance in collection of the data.

Table 1 shows that these categories of games are practically unrelated. In other words, there is some reason to believe that speaking in terms of "games" in general as a socializing medium is misleading, for game behavior is apparently compartmentalized. Also, the type of game compartmentalization which occurs is not intuitively obvious. This is apparent from Table 2, which presents the Q coefficients for four game types.[11] For instance, sports are strongly related to individual games or hobbies (Q = .53), while they have no relationship with party games (Q = .06). The nature and meaning of game clusters, even at this level of generality, appears already to be an empirical question rather than one of common sense.

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[11] The two additional types are individual games, hobbies and party games. They have the same format as that for sports. It is noteworthy that the median breaks for the game activities are as follows: sports, more than twice a week; individual games or hobbies, twice a week; board games, once a week; party games, once a month. From the perspective of socialization, we should expect then that the more frequently a type of game is played, the greater its impact will be. Thus for this sample, sports should be the most important game type and party game the least. In other populations the frequency of game play could be very different; hence, socialization would be different.

TABLE 2

Relationships (Q Values) Among Frequency of Participation in Four Types of Games

Code:

1 = sports

2 = board games and cards

3 = individual games and hobbies

4 = party games

	1	2	3	4
1	--	.12	.53	-.06
2	.12	--	.32	.33
3	.53	.32	--	.47
4	-.06	.33	.47	--

Turn now to the tenability of the overall autotelic hypothesis. Namely, have various degrees of game exposure a discernible impact? Table 3 shows some indication that the answer is positive, although with qualifications both within and across types of games.[12] Within games it is noticeable that sports are strongly associated with school achievement (epsilon = +11), with span of attention (+29) and with the feeling that one can learn (+18).[13] Yet they have practically no relationship with self image, (+2), with one's expectations of success in life (-7), and with one's attitude toward luck (+5). Thus in this sample sports are associated with some basic characteristics which make up the image that we have of a good student.

Exposure to board and card games produce a very different effect. They are associated with a negative self image (epsilon = +17), with a feeling of impotency in learning (+15), with reliance on luck rather than on work (+12), and with low school achievement (+9). At the same time these games bear little relationship with span of attention (-5) and none with one's expectation of success in life (-1). Here

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12 We do not claim that the dependent variables used here are a representative sample of those assumed to be related to autotelic behavior. However, they are part of the set, and for present purposes suffice.

13 Because the purpose here is to illustrate and not to test the hypotheses, we have omitted tests of significance. As a bench-mark, percentage differences of 8 and above are statistically significant at the .05 level (2 tails) for the distributions in Table 3.

TABLE 3

Relationship of Game Exposure to Skills, Values, and Attitudes

	Game Exposure: Sports [a]			Board Games and Cards [b]		
	Low	High		Low	High	
Percent of respondents who agree with or score high on:	(36)	(54)	epsilon	(37)	(54)	epsilon
1. Hard work is more important than luck for being successful in life.	58	63	+ 5	67	55	-12
2. I don't have much chance to be successful in life.	55	48	- 7	49	48	- 1
3. Sometimes I feel that I just can't learn.	53	35	-18	35	50	+15
4. If I could change, I would rather be someone else (self image).	61	63	+ 2	51	68	+17
5. I don't get easily bored or lose interest in things (span of attention).	33	62	+29	55	50	- 5
6. S.C.A.T. verbal score.	39	50	+11	50	41	- 9

[a] High frequency players play more than twice a week.

[b] High frequency players play once a week or more.

the image that emerges is of an unsuccessful and insecure youth.

In short, these data suggest that there is a differential impact due to variations in game exposure. Second, some games might have what could be called strong negative socializing effects. Furthermore, the fact that some variables are associated with different types of games points to the possibility of games as general socializing mediators. On the other hand, the fact that some outcomes are related to only one type of game would indicate the existence of game-specific effects. Finally, the absence of relationships of some variables (e.g., general expectation of success in life) with any game type serves to circumscribe the range of effectiveness of games.

Of course, it must be considered to what extent the findings express anything more than a process of self-selection, to mention but one alternative explanation. Yet it is important to recognize that it is only because of the unexpected strength of some relationships that the problem becomes so salient. The question becomes then how far one can expect to go with cross-sectional data. A more refined category system of games can probably be achieved through repetitive use of a factor analytic approach. In the process a reliable subset of dependent variables is likely to be circumscribed. With the problem thus better defined, experimental and longitudinal studies will become manageable.

The causal issue can still be tackled even before this stage is reached. From a theoretical standpoint, whenever a strong relationship is uncovered, the investigator can consider many questions concerning the nature of the role the game or play activity is providing. Two are of paramount theoretical interest.

The first problem is to consider whether the effects of autotelic activity are contextual or structural. Thus it might very well be that whatever stable relationships are established between types of games and some socialization outcomes could be due to the social context other than to the game itself. Already from our data it appears that the social context in which various types of games are played vary greatly. Sports are predominantly played with peers, while board and card games are played with siblings and adults. Along similar lines, Stoll (1968) using a parent-child simulation game to test Goffman's (1961) hypotheses found that extra-game roles impinge upon game process. For instance, certain options, such as punishment, are de-emphasized as players' acquaintanceship increases. Thus the same game may serve different socializing functions in varying contexts.

At the same time there are reasons to believe that game structure per se is an important variable. For example, in a study using a simulation game of a community disaster, Inbar (1966) found that group size affected strongly the amount of individual enjoyment and learning. Similarly, other structural variables, e.g., zero-sum versus non-zero-sum outcome, degree of role differentiation, may also be important variables.

The second question is especially important in terms of the overall socialization process. Namely, to what extent does the game provide unique structure for socialization? If, for example, participation in zero-sum games is found to produce aggressiveness and competetiveness, then to what extent are these games the major source for the development of aggressive or competitive personality types? This question can be

answered only in light of knowledge of the other socialization structures--the family, peers, school. If the game does not appear to be the unique socializing source, then it must be considered to what extent it mediates the activities of other socializing agents, perhaps accelerating their task. Thus it may be that games with umpires foster a sense of respect for authority only when the player has been taught previously about this attitude in the home.

These questions suggest that we consider socialization from the perspective of outcomes, from personality integration through empathy, asking how the various agents in combination play their parts. Only then can we know whether "the game's the thing."

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